

In the Claims:

1. (Currently Amended) A fuel cell apparatus with a reformer and a mixture formation means, said mixture formation means comprising:

a fuel feed means connected to a fuel source;

an air feed means;

a mixture formation area, and

a fuel heating means,

wherein the fuel feed means includes a pressure impulse injection means,

wherein the mixture formation area is supplied with air and is positioned in line downstream of the fuel heating means and includes a swirl chamber into which a nozzle connected to the pressure impulse injection means discharges, and

wherein the fuel heating means is positioned in line downstream of the pressure impulse injection means as a means for preheating the fuel to a temperature producing spontaneous fuel vaporization at a nozzle outlet of said nozzle;

wherein the pressure impulse injection means comprises a fuel pump and a changeover valve having an input side connected to the fuel pump, and an output side that is selectively connectable with the fuel source via a fuel return line and a fuel supply line containing the fuel heating means, for directing fuel from the pump to either the fuel supply line or the fuel source;

wherein a pressure holding valve having a holding pressure is located in the fuel return line; and

wherein the pump has a pumping pressure that is matched to the holding pressure of the pressure holding valve.

2. (Cancelled).

3. (Previously Presented) The fuel cell apparatus as claimed in claim 1, wherein the fuel heating means heats the fuel to the temperature at which the vapor pressure of the fuel is below a holding pressure determined by a pressure holding valve.

4. (Previously Presented) The fuel cell apparatus as claimed in claim 1, wherein the air feed means includes an air heater.

5. (Previously Presented) The fuel cell apparatus as claimed in claim 4, wherein the air heater heats the air to a temperature at which condensation of the fuel in the swirl chamber does not occur.

6. (Previously Presented) The fuel cell apparatus as claimed in claim 1, wherein the air feed supplies air continuously.